

Tactical Air Unit Policy and Procedure

Purpose:

The Shadowhawk" UAS (Unmanned Aircraft System) will be used to assist in public safety and search and rescue operations and will be acquired and maintained by the Montgomery County Sheriff's Office. The UAS will be used to enhance and support tactical operations in the rural areas of Montgomery County or within the Region should a request for assistance be made and approval for operations be received by FAA. SWAT (Special Weapons and Tactics) and narcotics operations will utilize camera and FLIR systems to provide real time situational awareness of the target during high risk operations. The ability to provide this aerial view will tremendously enhance officer safety. The ability to use this aircraft to search large areas quickly using the attached technology equipment will improve the resolution of these operations.

Authorization:

The Shadowhawk UAS will not be deployed without the consent and knowledge of The Sheriff and/or Chief Deputy. The Shadowhawk will be operated within the guidelines/rules of the FAA, COA and policy/procedures set forth by the Montgomery County Sheriff's Office (MCSO). The aircraft will not operate in an area not covered by an approved COA (Certificate of Airworthiness), unless an Emergency COA has been obtained, or the FAA has given permission to operate with a specific area not covered by a prior approved COA.

Flight Crew:

PIC (Pilot in Command)

Crew Chief/Video Operator

Observer

All flight crew members will operate under the rules and guidelines established and published by the FAA pertaining to unmanned aircraft operations. Flight crew members will receive proper training specific to their assigned flight crew function and will stay proficient in that job function by participating in scheduled UAS training flight sessions.

PIC: Shall receive manufacturer training on the operation and basic maintenance/upkeep of all components used during the operation of the UAS. In addition to the rules and requirements specified by the FAA, the PIC shall perform a minimum of three (3) take offs and landings every ninety (90) days as part of his/her proficiency.

Crew Chief/Video Operator: Shall receive manufacturer training on the operation and basic maintenance/upkeep of all components used during the operation of the UAS. The operator shall stay proficient and understand the video system utilized on the UAS including recording and retrieving saved digital data.

Observer: Shall receive training from any UAS PIC or Crew Chief regarding flight characteristics of the UAS and the understanding the UAS is to stay in sight of the observer(s) or within the guidelines as published in the approved COA.

Training: UAS Flight Crew Members will participate in the minimum amount of training depicted by the MCSO. The minimal amount of UAS training will be two (2) days in a thirty (30) day period. The MCSO Administration or Unit Commander may increase or adjust the minimal required training if deemed necessary.

Maintenance:

Basic maintenance will be performed on the Shadowhawk UAS by qualified flight crew members that may include but not limited to; fluid change, spark plug change and cleaning, tightening of nuts and bolts, aircraft and payload cleaning and inspection and any other maintenance a competent flight crew member is able to perform. All other maintenance to the Shadowhawk UAS will be performed by the manufacturer as required and suggested by the manufacturer.

Fuel/Oil Recommendations:

The PIC and/or Crew Chief of the Shadowhawk UAS will be responsible for ensuring the aircraft has been fueled to its desired fuel weight with the proper fuel/oil mixture. The Shadowhawk will only be fueled with high octane gasoline mixed with oil approved and recommended by the manufacturer or the operating component at a mixture suggested by the manufacturer.

Pre-Flight Procedures:

Pre-flight procedures will be conducted prior to each flight and will be done in accordance to a check list prepared and approved by the manufacturer and the operating proponent. Any irregularities found during the pre-flight procedure will be noted in the proper log book(s) and it will be the decision of the PIC to determine if the irregularity will alter the flight or ground the aircraft. Pre-flight procedures include computer, ground station, cables/connectors, antennas and aircraft.

Launch Procedures:

Prior to UAS aircraft launch, the PIC is responsible for ensuring all items depicted on the pre-flight check list has been conducted and the aircraft/ground station is safe to operate. The PIC will communicate with the Crew Chief and Observer to confirm the area is visibly clear of any low flying air traffic and hazardous obstacles prior to lift off.

The PIC will be responsible for ensuring a NOTAM has been requested for the date and time period of operation and the NOTAM is in effect.

The PIC will be responsible for ensuring contact has been made with Houston TRACON via telephone or radio advising operations are about to commence in the COA where the NOTAM was filed.

The PIC will ensure communication with the proper ATC has been done, if applicable, and in accordance to the rules and guidelines set forth by the FAA.

The PIC will monitor all areas of the aircraft system during run up and be responsible for allowing launch or aborting the launch if any irregularities are detected.

After liftoff, all crew members shall perform the tasks according to their job assignment and communicate effectively and clearly while monitoring lift off and climb to desired mission altitude.

Post Launch:

All crew members shall perform the tasks according to their assigned job assignment and to communicate effectively and clearly during the duration of the assigned mission.

PIC: Monitor aircraft and ground station systems to ensure the aircraft is flying as designed and maintaining the attitude and altitude previously commanded to the system; as well as, maintaining communication with the Crew Chief and Observer.

Crew Chief/Video Operator: Operate and manipulate the video/payload while in communication with the PIC to ensure the mission objective is accomplished.

Observer: Monitor the flight characteristics of the aircraft while in communication with the PIC to ensure proper flight and that the aircraft remains clear of obstacles and low flying air traffic.

Aircraft Landing:

It will be the responsibility of the PIC to confirm the mission objective has been met prior to aircraft landing or deemed it necessary to land the aircraft due to any other reason.

The PIC will communicate with the Observer to confirm no obstacles are in the flight path of the aircraft and the return to base waypoint (RTB) prior to giving the aircraft a command to RTB.

Once the aircraft is at RTB, the PIC will perform a landing in accordance to the checklist that has been prepared by the manufacturer and the operating component. The Crew Chief and Observer will monitor the aircraft as it is landing to ensure a proper and safe landing. If the aircraft is not landing as desired or commanded, the Crew Chief and/or Observer will notify the PIC who will abort the landing accordingly.

It will be the responsibility of the PIC to ensure contact is made with the proper ATC to advise completion of the mission and no further need for the previously issued NOTAM.

Aircraft Recovery:

Upon completion of the mission and the aircraft has been landed and the engine killed, the Crew Chief and Observer will power down all aircraft systems on command of the PIC. Once all aircraft systems are powered off, the aircraft will be recovered from the launch area according to the checklist.

Aircraft/Ground Station Vehicle:

The vehicle is equipped and fitted to house and transport the Shadowhawk UAS. The vehicle is also equipped with the UAV ground station, computer, accessories, antennas, tools, usable fuel and other items needed to operate and prepare the aircraft for flight. The Ground Station/Aircraft Vehicle will be routinely inspected to ensure all items contained in the vehicle are in good condition and working order. The fuel containers will be checked to ensure ample fuel is available for flight operations.

Operational Security:

Maintaining security of the Shadowhawk UAS and the operations vehicle is a matter of great importance to the MCSO. During operations at a crime scene, operations call out or while operating in an Emergency COA, security will be provided and maintained by a member of the MCSO to ensure a sterile cockpit and to protect the integrity of the operation.